

MICROBIOLOGY SUPPLIES

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Membranes for Microbiology – Introduction

- **Made from Mixed Cellulose Esters (MCE) or Cellulose Acetate:** MCE is a mixture of nitrocellulose and other cellulose esters.
- **Available with grid lines:** Contrasting grid lines facilitate counting colonies on the filter surface and are tested to assure freedom from grid line inhibition. 3.1 mm squares represent 1/100 of the filtration area of a 47 mm diameter filter (9.6 cm²)
- **Convenient packaging:** Membranes are available individually wrapped for optimum sterility and also in 10-packs
- **Specially tested for microbiology:** All 0.45 µm white gridded membranes are tested for Coliform, Fecal Streptococci and *Serratia marcescens*. All 0.65 µm white gridded membranes are tested for complete retention and optimal recovery of Fecal Coliform and *Saccharomyces cerevisiae*. Black and Green membranes are tested for optimal recovery of yeast and total bacteria. All membranes are also tested for uniform wetting, freedom from grid line inhibition and optimal color reactions on appropriate test media
- **Membrane certification** for individual lot numbers is available on request.

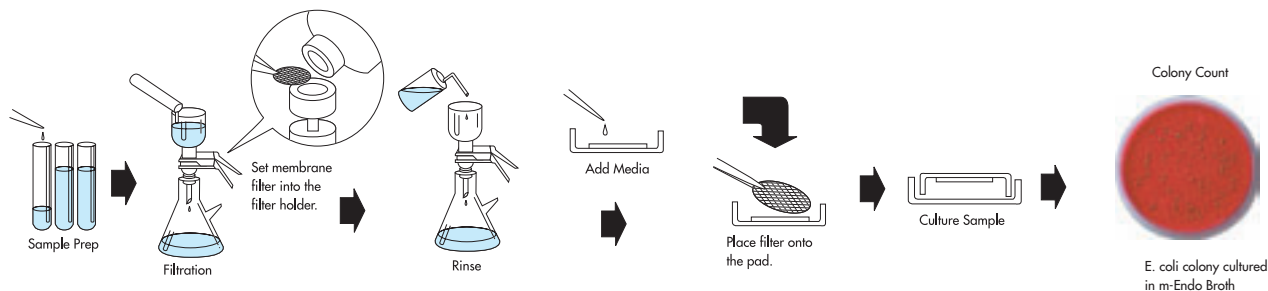


Membrane Filters for Microbiology

APPLICATIONS

- **Applications** include microbiological analysis of water, wastewater, pharmaceuticals and beverages

Sample Filtration and Growth Procedures



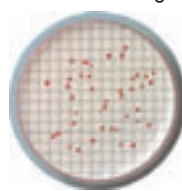
Sample Growth Results

A045H047A
E. coli cultured in
m-Endo Broth



A045W047A
Lactic acid bacteria
cultured in growth media

A045H047A
Fecal *Streptococcus*
cultured in KF-Agar



A045F047A
Fecal *E. coli* cultured
in m-FC media

A080R047A
Saccharomyces cultured
in m-Green Yeast and
Mold Broth



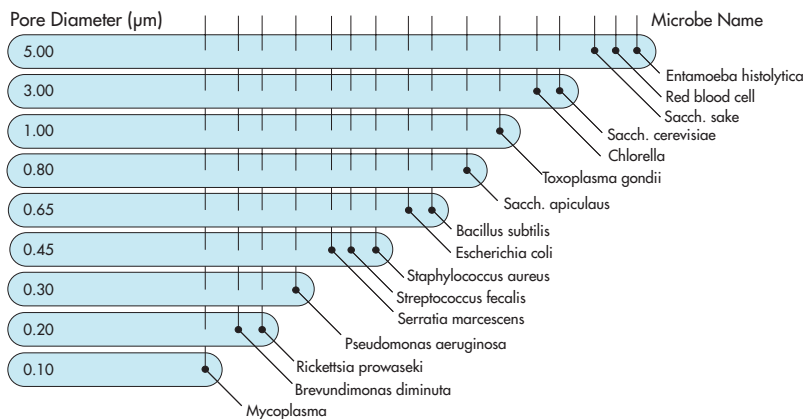
White Mixed Cellulose Esters

- **Standard** for microbiological analysis of water, wastewater, and beverages
- **Convenient:** Available in individual or 10-pack, pre-sterilized by EtO or autoclavable

Available in plain or gridded discs, package of 100 (except where noted)

Pore Size (µm)	Diameter (mm)	Plain or Grid	Individual Pack with Pad (Pre-Sterilized)	Individual Pack without Pad (Pre-Sterilized)	Multipack 10 Packs of 10 Membranes per Pack with Pad (Pre-Sterilized)	Multipack 20 Packs of 10 Membranes per Pack without Pad (Pre-Sterilized)
0.20	47	Plain	-	A020G047A	-	-
		Grid	A020F047A	A020H047A	-	-
0.45	47	Plain	A045E047A	A045G047A	-	-
		Plain-HE	-	A045G047J	-	-
		Grid	A045F047A	A045H047A	A045D047A	A045D047Y
				A045H047W (1,000/pk)		
	Grid-HE	-	A045H047K	-	-	
	50	Plain	-	A045G050A	-	-
Grid		-	A045H050A	-	-	
0.65	47	Plain	-	A065G047A	-	-
		Grid	A065F047A	A065H047A	-	-
0.8	47	Plain	-	A080G047A	-	-
		Grid	A080F047A	A080H047A	-	-

Relationship of Pore Size and Microbe Retention to Membrane Filters



Combination of colors of membrane filter and grid line

MF Color	Pore Size	Grid Line Color
White	0.20, 0.45, 0.65 µm	Black
White	0.80 µm	Green
Black	0.45, 0.80 µm	Black
Green	0.45, 0.80 µm	Green

Black Mixed Cellulose Esters – Sterile

- **Maximum** contrast between colonies and the filter without counterstaining
- **Applications:** Use to enumerate yeast and bacteria in carbonated beverages, wines and water

Available in gridded 47 mm discs, package of 100

Pore Size (µm)	Diameter (mm)	Individual Pack with Pad	Individual Pack without Pad
0.45	47	A045M047A	A045R047A
0.80	47	A080M047A	A080R047A

Green Mixed Cellulose Esters – Sterile

- **Pale green background** enables viewing of black, white, and colorless particles on one filter
- **Minimizes eye fatigue**

Available in gridded 47 mm discs, package of 100

Pore Size (µm)	Diameter (mm)	Individual Pack without Pad
0.45	47	A045W047A

Cellulose Acetate (White) – Sterile

- **Lower protein binding** (relative to MCE)
- **Improved solvent resistance** to low molecular weight alcohols (relative to MCE)
- **Application:** May enhance recovery of fastidious gram positive organisms in culture

Available in plain 47 mm discs, package of 100

Pore Size (µm)	Diameter (mm)	Individual Pack without Pad
0.20	47	C020G047A
0.45	47	C045G047A

Petri Dishes

- **Polystyrene dishes** suitable for culturing microorganisms on 47 mm diameter membrane filters
- **Convenient:** Snug fit prevents drying during incubation. Squared edges and a raised ridge for ease of handling and secure stacking
- **Available with or without pad:** 47 mm absorbent cellulose pad (0.85 ± 0.17 mm thick, absorbs 1.8-2.2 mL liquid)
- **Manufacturer's certification of compliance** available upon request



Petri Dishes

Model	Description	Catalog No.	Size	Package
PD-47A	Sterile Petri Dishes	42004010	OD54 X 11mm	100 / pack
PD-47B	Sterile Petri Dishes with Pads	42004020		(5 sleeves of 20)

Pre-Sterilized Absorbent Pads

- **Cellulose pads:** 47 mm plain white discs fit into standard petri dishes
- **Routinely tested** for absorption of 1.8 – 2.2 mL of Culture media, pH neutral
- **Convenient Packaging:** 100 individual pre-sterilized packages per box

Model	Package
B200G047A	Box of 100 Individual Sterile Packages



Pre-sterilized Absorbent Pads

Filterceps

- **Forceps** of polished type 304 stainless steel are ideally designed for handling membranes
- **Tips are beveled and unserrated** to minimize the risk of damaging membrane filters
- **Non-slip handle** allows Filterceps to be held securely and flamed without risk of burning one's fingers

Model	Length	Material
FS-1	115 mm	SUS 304



Filterceps

37 mm Monitors for Microbial and Contamination Analysis

Pre-assembled 2- and 3-piece units contain a built-in membrane filter and a support pad. Monitors are suitable for field collection and transportation of samples as well as analysis in the laboratory. Samples collected on the press-fit membrane can then be cultured in place or removed for further analysis.

Monitor Sets include a 2-piece monitor, plugs, sampling tube, and 3-way connector. Individually packaged sets are pre-sterilized and are ideal for field sampling.

SPECIFICATIONS

Monitor Type	2-piece	3-piece
Housing	Styrene Acrylonitrile	
Membrane	Mixed Cellulose Esters (Nitrocellulose)	
Support Pad	Pure Cotton Cellulose	
Internal Dimensions	ø34 x 9 mm	ø34 x 18 mm
External Dimensions	ø42 x 29 mm	ø42 x 39 mm
Filtration Area	9.0 cm ² (6.7 cm ² for Hydrophobic Edge Type)	
Internal Volume	8 mL	16 mL
Maximum Operating Temperature	45°C	

ORDERING INFORMATION

3-Piece Monitors

Membrane			Quantity	Sterile
Pore Size (µm)	Color	Surface		
0.45	White	Gridded	50/pk	37AS345BS
0.45	Black	Gridded	50/pk	37AS345PS
0.80	White	Gridded	50/pk	37AS380BS

2-Piece Monitors

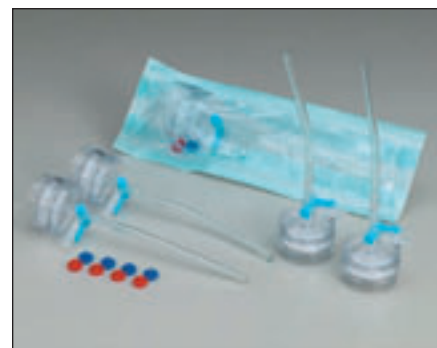
Membrane			Quantity	Sterile	Sterile Hydrophobic Edge
Pore Size (µm)	Color	Surface			
0.45	White	Gridded	50/pk	37AS245BS	37AS245BS-HE
0.45	Black	Gridded	50/pk	-	37AS245PS-HE

2-Piece Monitor Sets

Membrane			Quantity	Sterile Hydrophobic Edge
Pore Size (µm)	Color	Surface		
0.45	White	Gridded	20/pk	37ASA45BS-HE
0.45	Black	Gridded	20/pk	37ASA45PS-HE



37 mm Monitors.



37 mm Monitor Sets.